

In The Claims:

Claims 1-12 (Cancelled)

13. (Withdrawn) A method of regulating the temperature of a print head comprising one or more print elements, the method comprising the steps of:

providing a temperature control medium that is also a print medium;

pumping a temperature control medium from a storage reservoir to the one or more print elements; and

regulating the temperature of the temperature control medium to regulate the temperature of the print head.

14. (Withdrawn) The method of claim 13, further comprising the step of pumping the temperature control medium from the one or more print elements back to the storage reservoir.

15. (Withdrawn) The method of claim 13, wherein the temperature of the control medium and hence the print head is regulated based on a temperature difference between the temperature control medium pumped from the storage reservoir to the print elements and the temperature control medium pumped from print elements to the storage reservoir.

16. (Withdrawn) The method of claim 13, wherein the temperature control medium is an ink.

17. (Currently amended) A print head comprising:

one or more print elements, the print elements comprising ink jet valves;

a storage reservoir for holding a temperature control medium that also is a print medium, the storage reservoir being in fluid communication with the one or more print elements such that, during printing, the temperature control medium can circulate from the storage reservoir to the one or more print elements and then back to the reservoir;

a temperature control means for regulating the temperature of the temperature control medium that flows from the reservoir to the print elements so as to regulate the temperature of the print head.

18. (Previously presented) A print head as set forth in claim 17, further comprising a first conduit connected to provide fluid communication from the storage reservoir to the printing elements and a second conduit for providing fluid communication from the printing elements to the storage reservoir.

19. (Previously presented) A print head as set forth in claim 18, further comprising a first temperature sensor arranged to sense the temperature in the first conduit and a second temperature sensor arranged to sense the temperature in the second fluid conduit.

20. (Previously presented) A print head as set forth in claim 17, further comprising at least one temperature sensor arranged to measure the temperature of the one or more print elements.

21. (Previously presented) A print head as set forth in claim 17, wherein the temperature control means regulates the temperature of the temperature control medium in the reservoir.

22. (Currently amended) A print head comprising:
one or more print elements, wherein the print elements are arranged in a two-dimensional array;

a storage reservoir for holding a temperature control medium that also is a print medium, the storage reservoir being in fluid communication with the one or more print elements such that, during printing, the temperature control medium can circulate from the storage reservoir to the one or more print elements and then back to the reservoir;

a first temperature sensor arranged to measure the temperature of the temperature control medium that is communicated from the reservoir to the print elements;

a second temperature sensor arranged to measure the temperature of one of the print ~~control head~~ elements and the temperature control medium that is returned from the print elements;

a temperature controller coupled to the first and second temperature sensors and to the reservoir, the temperature controller being adapted to sense the temperatures measured by the first and second sensors and to ~~regulating~~ regulate the temperature of the temperature control medium in the reservoir in response to the measured temperatures so as to regulate the temperature of the print head.

23. (Previously presented) A print head as set forth in claim 22, wherein the temperature control medium is an ink.

24. (New) The print head of claim 17, wherein the print elements are arranged in a two-dimensional array.

25. (New) The print head of claim 17, wherein the ink jet valves comprise electromagnetic valves.

26. (New) A drop-on demand printer incorporating the print head of claim 17.

27. (New) The drop-on demand printer of claim 26 wherein the printer operates at speeds in excess of 1 kHz.

28. (New) The print head of claim 22, wherein the print elements comprise electromagnetic valves.

29. (New) A drop-on demand printer incorporating the print head of claim 22.

30. (New) The drop-on demand printer of claim 29 wherein the printer operates at speeds in excess of 1 kHz.